FEBRUARY 1954

ARMY INFORMATION DIGEST

In This Issue:

POWER FOR PEACE. In his epoch making address before the General Assembly of the United Nations, President Eisenhower noted that "Never before in history has so much hope for so many people been gathered together in a single organization." Reflecting the strength and sincerity of United States aspirations toward peace, the President proposed that the Western Allies and the Soviet Union begin immediately "to make joint contributions from their stockpiles of fissionable materials to an international atomic energy agency." The rostrum and the circumstances were unique, but the motivating principles are as ageless as the Biblical injunction which calls for the beating of swords—and isotopes—into plowshares. "The President's Address on the Atomic Age" is destined to exert a salutary influence wherever free men gather to work for peace.

RUNNING THE GAMUT. A study in symmetry, the crossed bayonets of Engineer troops in training at Fort Belvoir contrasts with the back cover view of a heavy gun at Aberdeen Proving Ground. Both individual and crew served weapons are integral to a well rounded combat force.

SPEECHES, LETTERS AND PUBLIC STATEMENTS in recent months have focused attention on the status of Armed Forces careers as compared with other fields of skilled endeavor. A product of wide ranging study, "The Womble Report on Service Careers" outlines the steps which should be taken to attract and retain career officers and noncommissioned officers of the Regular forces who form the professional "hard core" in peace and war.

GOOD CHEER is dispensed along with doughnuts and coffee wherever "Red Cross Clubmobiles Roll in Korea." A well planned program accounts for the American Red Cross' knack for being on the scene when the going is roughest.

LOCATE THE ENEMY, then destroy him, is a precept of battle applicable to Army management activities as well. Under direction of The Army Comptroller, "The Army Industrial Fund" system is being used to locate and combat higher costs, inefficiency and waste in Army industrial and commercial-type operations.

BALLISTICS BATTLE. At Aberdeen Proving Ground a complex array of optical, electronic and mechanical devices is used to determine the effects of vibration, shock and blast on weapons, projectiles and other items of Ordnance equipment. A camera that takes one hundred million photographs a minute and instruments that can measure as many as thirty-six separate actions taking place while a gun is firing a single round are among the research and development tools that help insure unerring fire power at the "Crossroads of Army Ordnance."

RISE OF THE ARMY NURSE CORPS to a position of recognition and esteem is chronicled by the Chief of the Corps upon the fifty-third anniversary of its founding. Opportunities for professional growth while on military duty are also described in "The Army Nurse Corps—Dedicated to Service."

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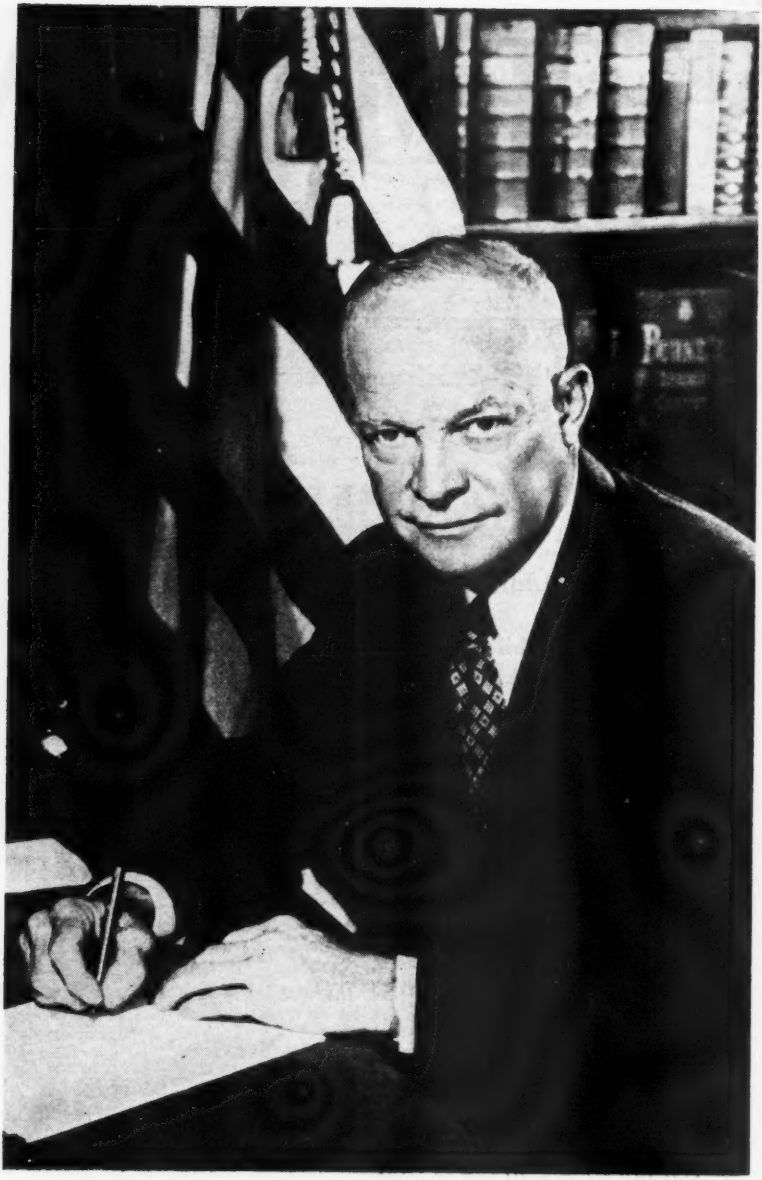


Photograph by Nickolas Muray

The President's Address On the Atomic Age

FROM THE PRESIDENT'S ADDRESS BEFORE THE GENERAL ASSEMBLY OF THE UNITED NATIONS, 8 DECEMBER 1953.

I FEEL impelled to speak today in a language that, in a sense, is new—one which I, who have spent so much of my life in the military profession, would have preferred never to use.

That new language is the language of atomic warfare.

The atomic age has moved forward at such a pace that every citizen of the world should have some comprehension, at least in comparative terms, of the extent of this development, of the utmost significance to every one of us. Clearly, if the peoples of the world are to conduct an intelligent search for peace, they must be armed with the significant facts of today's existence.

My recital of atomic danger and power is necessarily stated in United States terms, for these are the only incontrovertible facts that I know. I need hardly point out to this assembly, however, that this subject is global, not merely national in character.

On 16 July 1945, the United States set off the world's first atomic test explosion. Since that date in 1945, the United States of America has conducted forty-two test explosions.

Atomic bombs today are more than twenty-five times as powerful as the weapons with which the atomic age dawned, while hydrogen weapons are in the ranges of millions of tons of TNT equivalent.

Today the United States' stockpile of atomic weapons, which, of course, increases daily, exceeds by many times the explosive equivalent of the total of all bombs and all shells that came from every plane and every gun in every theater of war through all the years of World War II.

A single air group, whether afloat or land based, can now deliver to any reachable target a destructive cargo exceeding in

power all the bombs that fell on Britain in all of World War II.

In size and variety, the development of atomic weapons has been no less remarkable. This development has been such that atomic weapons have virtually achieved conventional status within our armed services. In the United States services, the Army, the Navy, the Air Force and the Marine Corps are all capable of putting this weapon to military use.

But the dread secret and the fearful engines of atomic might are not ours alone.

In the first place, the secret is possessed by our friends and Allies, Great Britain and Canada, whose scientific genius made a tremendous contribution to our original discoveries and the designs of atomic bombs.

The secret is also known by the Soviet Union.

The Soviet Union has informed us that, over recent years, it has devoted extensive resources to atomic weapons. During this period, the Soviet Union has exploded a series of atomic devices, including at least one involving thermonuclear reactions.

If at one time the United States possessed what might have been called a monopoly of atomic power, that monopoly ceased to exist several years ago. Therefore, although our earlier start has permitted us to accumulate what is today a great quantitative advantage, the atomic realities of today comprehend two facts of even greater significance.

First, the knowledge now possessed by several nations will eventually be shared by others, possibly all others.

Second, even a vast superiority in numbers of weapons, and a consequent capability of devastating retaliation, is no preventive, of itself, against the fearful material damage and toll of human lives that would be inflicted by surprise aggression.

The free world, at least dimly aware of these facts, has naturally embarked on a large program of warning and defense systems. That program will be accelerated and expanded.

But let no one think that the expenditure of vast sums for weapons and systems of defense can guarantee absolute safety for the cities and the citizens of any nation. The awful arithmetic of the atomic bomb does not permit of such an easy solution. Even against the most powerful defense, an aggressor in possession of the effective minimum number of atomic bombs for a surprise attack could probably place a sufficient number of his bombs on the chosen targets to cause hideous damage.

Should such an atomic attack be launched against the United States, our reaction would be swift and resolute. But for me to say that the defense capabilities of the United States are such that they could inflict terrible losses upon an aggressor—for me to say that the retaliation capabilities of the United States are so great that such an aggressor's land would be laid waste—all this, while fact, is not the true expression of the purpose and the hope of the United States.

To pause there would be to confirm the hopeless finality of a belief that two atomic colossi are doomed malevolently to eye each other indefinitely across a trembling world. To stop there would be to accept helplessly the probability of civilization destroyed—the annihilation of the irreplaceable heritage of mankind handed down to us generation from generation—and the condemnation of mankind to begin all over again the age-old struggle up from savagery toward decency, right and justice.

Surely no sane member of the human race could discover victory in such desolation. Could anyone wish his name to be coupled by history with such degradation and destruction?

Occasional pages of history do record the faces of the "Great Destroyers" but the whole book of history reveals mankind's never-ending quest for peace and mankind's God-given capacity to build.

It is with the book of history, and not with isolated pages, that the United States will ever wish to be identified. My country wants to be constructive, not destructive. It wants agreements, not wars, among nations. It wants, itself, to live in freedom and in the confidence that the people of every other nation enjoy equally the right of choosing their own way of life.

So my country's purpose is to help us move out of the dark chamber of horrors into the light, to find a way by which the minds of men, the hopes of men, the souls of men everywhere, can move forward toward peace and happiness and well-being.

In this quest, I know that we must not lack patience.

I know that in a world divided, such as ours today, salvation cannot be attained by one dramatic act.

I know that many steps will have to be taken over many months before the world can look at itself one day and truly realize that a new climate of mutually peaceful confidence is abroad in the world. But I know, above all else, that we must start to take these steps—now.

The United States and its Allies, Great Britain and France, have, over the past months, tried to take some of these steps. Let no one say that we shun the conference table.

On the record has long stood the request of the United States, Great Britain and France, to negotiate with the Soviet Union the problems of a divided Germany. On that record has long stood the request of the same three nations to negotiate an Austrian peace treaty. On the same record still stands the request of the United Nations to negotiate the problems of Korea.

Most recently, we have received from the Soviet Union what is in effect an expression of willingness to hold a four-power meeting. Along with our Allies, Great Britain and France, we were pleased to see that this note did not contain the unacceptable preconditions previously put forward.

As you already know from our joint Bermuda communique, the United States, Great Britain and France have agreed promptly to meet with the Soviet Union.

The Government of the United States approaches this conference with hopeful sincerity. We will bend every effort of our minds to the single purpose of emerging from that conference with tangible results toward peace—the only true way of lessening international tension.

We never have, we never will, propose or suggest that the Soviet Union surrender what is rightfully theirs. We will never say that the peoples of Russia are an enemy with whom we have no desire ever to deal or mingle in friendly and fruitful relationship.

On the contrary, we hope that this coming conference may initiate a relationship with the Soviet Union which will eventually bring about a free intermingling of the peoples of the East and of the West—the one sure, human way of developing the understanding required for confident and peaceful relations.

Instead of the discontent which is now settling upon Eastern Germany, occupied Austria and the countries of Eastern Europe, we seek a harmonious family of free European nations, with none a threat to the other, and least of all a threat to the peoples of Russia. Beyond the turmoil and strife and misery of Asia, we seek peaceful opportunity for these peoples to develop their natural resources and to elevate their lot.

These are not idle words of shallow vision. Behind them lies a story of nations lately come to independence, not as a result

of war but through free grant or peaceful negotiation. There is a record already written of assistance gladly given by nations of the West to needy peoples and to those suffering the temporary effects of famine, drought and natural disaster. These are deeds of peace. They speak more loudly than promises or protestations of peaceful intent.

But I do not wish to rest either upon the reiteration of past proposals or the restatement of past deeds. The gravity of the time is such that every new avenue of peace, no matter how dimly discernible, should be explored.

There is at least one new avenue of peace which has not yet been well explored—an avenue now laid out by the General Assembly of the United Nations.

In its resolution of 18 November 1953, this General Assembly suggested—and I quote—"that the Disarmament Commission study the desirability of establishing a subcommittee consisting of representatives of the powers principally involved, which should seek, in private, an acceptable solution—and report such a solution to the General Assembly and to the Security Council not later than 1 September 1954."

The United States, heeding the suggestion of the General Assembly of the United Nations, is instantly prepared to meet privately with such other countries as may be "principally involved," to seek "an acceptable solution" to the atomic armaments race which overshadows not only the peace but the very life of the world.

We shall carry into these private or diplomatic talks a new conception.

The United States would seek more than the mere reduction or elimination of atomic materials for military purposes.

It is not enough to take this weapon out of the hands of the soldiers. It must be put into the hands of those who will know how to strip its military casing and adapt it to the arts of peace.

The United States knows that if the fearful trend of atomic military build-up can be reversed, this greatest of destructive forces can be developed into a great boon for the benefit of all mankind.

The United States knows that peaceful power from atomic energy is no dream of the future. That capability, already proved, is here now—today. Who can doubt, if the entire body of the world's scientists and engineers had adequate amounts of fission-

able material with which to test and develop their ideas, that this capability would rapidly be transformed into universal, efficient and economic usage?

To hasten the day when fear of the atom will begin to disappear from the minds of people and the governments of the East and West there are certain steps that can be taken now.

I therefore make the following proposals:

The governments "principally involved," to the extent permitted by elementary prudence, to begin now and continue to make joint contributions from their stockpiles of normal uranium and fissionable materials to an international atomic energy agency. We would expect that such an agency would be set up under the aegis of the United Nations.

The ratios of contributions, the procedures and other details would properly be within the scope of the "private conversations" I have referred to earlier.

The United States is prepared to undertake these explorations in good faith. Any partner of the United States acting in the same good faith will find the United States a not unreasonable or ungenerous associate.

Undoubtedly initial and early contributions to this plan would be small in quantity. However, the proposal has the great virtue that it can be undertaken without irritations and mutual suspicions incident to any attempt to set up a completely acceptable system of world-wide inspection and control.

The atomic energy agency could be made responsible for the impounding, storage and protection of the contributed fissionable and other materials. The ingenuity of our scientists will provide special, safe conditions under which such a bank of fissionable material can be made essentially immune to surprise seizure.

The more important responsibility of this atomic energy agency would be to devise methods whereby this fissionable material would be allocated to serve the peaceful pursuits of mankind. Experts would be mobilized to apply atomic energy to the needs of agriculture, medicine and other peaceful activities. A special purpose would be to provide abundant electrical energy in the power-starved areas of the world. Thus the contributing powers would be dedicating some of their strength to serve the needs rather than the fears of mankind.

The United States would be more than willing—it would be

proud—to take up with others "principally involved" the development of plans whereby such peaceful use of atomic energy would be expedited. Of those "principally involved" the Soviet Union must, of course, be one.

I would be prepared to submit to the Congress of the United States, and with every expectation of approval, any such plan that would:

First, encourage world-wide investigation into the most effective peacetime uses of fissionable material;

Second, begin to diminish the potential destructive power of the world's atomic stockpiles;

Third, allow all peoples of all nations to see that, in this enlightened age, the great powers of the earth, both of the East and of the West, are interested in human aspirations first rather than in building up the armaments of war.

Fourth, open up a new channel for peaceful discussion and initiate at least a new approach to the many difficult problems that must be solved in both private and public conversations if the world is to shake off the inertia imposed by fear and is to make positive progress toward peace.

Against the dark background of the atomic bomb, the United States does not wish merely to present strength, but also the desire and the hope for peace.

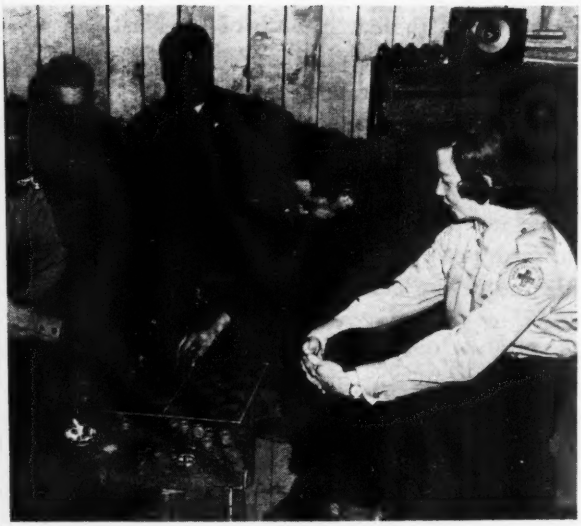
The coming months will be fraught with fateful decisions. In this Assembly, in the capitals and military headquarters of the world, in the hearts of men everywhere, be they governed or governors, may they be the decisions which will lead this world out of fear and into peace.

To the making of these fateful decisions, the United States pledges before you—and therefore before the world—its determination to help solve the fearful atomic dilemma—to devote its entire heart and mind to find the way by which the miraculous inventiveness of man shall not be dedicated to his death, but consecrated to his life.

Coffee and...

is served from traveling clubmobiles to soldiers in remote spots where the Army remains on guard.

American Red Cross Photograph



Camaraderie

is the order of the day wherever the Red Cross goes. Here a clubmobile worker plays a checker match with a soldier while their associates look on.

American Red Cross Photograph

Concerts, Too,

impromptu style, break the monotony for troops manning emplacements in Korea.

American Red Cross Photograph

Red Cross Clubmobiles Roll in Korea

Nelson J. Riley

HEAVY-LADEN snow clouds seemed about to drop their burden on the craggy landscape—a warning that winter was closing in early upon the fighting men guarding a shaky peace along the newly demilitarized zone in northern Korea. Though the setting was somber, only the elements were frowning as the first of a new series of American Red Cross clubmobiles moved up, in the direction of what had been bitterly contested battle lines.

The beginning was in October 1953, hardly three months after cease fire had been signed at Panmunjom. A few weeks and many miles later, the Red Cross motorized recreation program in Korea was proving that seasoned young men patrolling inflammable areas relax more easily during off hours when a feminine touch is provided.

The added element was new among combat troops but it quickly found its place. The sense of belonging became firm in each newcomer when servicemen began greeting her with "Hi! Sue," or Betty, or Alice. It became even more so after she had been around enough to call back, "How're ya doin' Joe?" Or Pete, or Gus.

Informality tags the whole performance of these young women, who are as good a sampling as any of American home life. But their new job has taken them a long way from families, and the girls meet cheerfully almost every day with boys and men of about their own background and circumstances. Both obviously enjoy the casual association. Good nature gets into gear early with guessing games and nostalgic or hill-billy songs led by the kid with the guitar—there is always one or more with every outfit.

Programmed, of course, is "light refreshments," and that item

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usually can be translated into the old-time Red Cross coffee and doughnut. This homely combination, it seems, will be linked with the Red Cross so long as they both endure; it is there through times of every kind of hardship, in war or peace.

But the refreshment course, whatever its form, is incidental to the impromptu entertainment put on in Korea by the spirited troupe of motor-borne Red Cross workers. If their unaffected little show does have a pattern, the design is informal and its script is thrown away as soon as the audience starts catching cues, until it is hard to say which side is delighting which. Humor is of the kind they knew at home, usually warmed over. The gags would die unmourned by a Broadway audience but they roll the men off their shell cases up near Heartbreak Ridge. Game prizes are strictly for laughs.

Though clubmobiles are no novelty to our military, the presence of Red Cross girls among troops recently released from fighting but still on the scene of combat, needed some adjustment in the thinking of officers and men. A measure of doubt was evident in various places of command when the new recreation project was set in motion at the Pentagon. It all but disappeared, however, when eager greeting marked the appearance at divisions of the first Red Cross clubmobiles, complete with girls. A press release from one unit reflects the spirit of the men's reception to the new arrivals, and gives a fair appraisal of their mission:

"The 45th Division personnel roster was increased by eight new names this week. These people didn't replace anyone and they didn't remind anyone of typical Thunderbirds (the Thunderbird screams from the patch of the 45th) because they just happen to be women.

"Eight American Red Cross clubmobile recreation workers," the story goes on, "set up shop in the 45th Division area for an indefinite stay . . . to provide supplementary recreational services for 'as long as there is a need for such activities,' according to clubmobile unit head, Marian Ramsey of Dyersburg, Kentucky, who has put in ten years with the American Red Cross. They have been allocated vehicles from Eighth Army and are offering their services as a special Red Cross function to Americans stationed in Korea who are too far distant from permanent recreational facilities. These eight young ladies are the northernmost representatives of the American Red Cross above the 38th Parallel in Korea." (Very nice, but not quite accurate. Red Cross

men always have been stationed with troops actually on the line in Korea, and Red Cross women continue as usual at their recreation work in field hospitals in advanced areas.) But let the 45th's narrative continue:

"The clubmobile workers organize soldier shows in the smaller units of the Division; company level shows, using their own personnel, are encouraged by the group. Birthdays and holiday parties for the troops, with refreshments and organized pastimes, is another of the features. Chess, checkers, pinochle and bridge tournaments . . . recreational activities, much like those offered in permanent Army installations Stateside . . . all provide what could be considered a mobile service club."

Korea was and is a United Nations preoccupation, and men in the armed service of many countries stand ready to intercept any Communist violation of the zone which was neutralized by the armistice of 27 July 1953. America's partners in vigilance are just as anxious as anybody for a visit from the Red Cross girls.

Korean infantrymen integrated with United States troops are no exception on this score. The 15th Regiment of the 3d Division had a good deal to say in its publication about a call paid to its home grounds by "charming Pat Drumstra of East Aurora, New York, and charming Suzanne Fields of Webster Groves, Missouri" who passed out "coffee and doughnuts to the troops, organized a bit of entertainment from local talent and, best of all, just walked around and talked to the men."

As for Korean members of the Regiment, the 15th's *Kingpost Express* noted "They hardly knew what to think about the attractive young women. 'Is girl medic?', asked a puzzled Korean soldier, referring to the Red Cross patch on her left shoulder.

"Though bashful, the Koreans made courteous remarks about the Red Cross girls and the comments were received with delight. Upon being introduced to them, Sergeant Tong Kang Lee summed up the attitude of his buddies, 'Soldier girls, Number One.' That comment aptly expressed the opinion of everyone in the regiment. It was like mail from home to see the young women and talk to them."

Following the clubmobile team's first visit to the 15th, the regimental commander wrote, in part, to Eileen Uncles, of East McKeesport, Pennsylvania, unit head: "Knowing full well the many inconveniences here in Korea, I have observed with amazement the indefatigable zeal and devotion with which these

girls have performed their duties. The uplift in morale which their visits have had on the personnel of this command is beyond measure." The commander invited the whole Red Cross crew to Thanksgiving and Christmas dinners with the regiment. Their presence on those days, he added, would make the occasions "as similar as possible to those the men enjoy at home with their wives, mothers and sweethearts."

That is the way it has been going everywhere along the safe side of what used to be 155 miles of flaming front—and could be again. Though official terminology labels the program "Supplemental Recreational Activities Overseas," (SRAO) that cumbersome title has no hardening effect on the clubmobile outfit's elasticity. Fewer than 100 recreational workers staff the 30 to 40 vehicles, but they provide entertainment plus a touch of femininity for almost the entire Eighth Army.

The program functions also at Inchon, port of entry and embarkation for the Eighth Army. It was there that the present Red Cross group first went into action, passing out refreshments on a 24-hour daily schedule to Army drivers who truck supplies from Inchon to their units in advanced positions.

The current activity is a revival of an earlier, mostly stationary, Red Cross service to troops in Korea which, of course, had its origin in club programs of the two World Wars. The first club operation in Korea lasted from November 1950 to June 1952, and cost the American Red Cross almost one million dollars. Organizationally, Red Cross club activities were placed in close conjunction with military Special Services—the object being to permit the former enough latitude to perform as emergency aid and to give the Army time to establish a long-term continuing program with no overlapping.

The plan was conceived, it is well to remember, at a time when military leaders were hopeful of an early armistice in Korea. But combat conditions worsened. Soon after the opening of the first Red Cross club on 12 November 1950 in Pusan, Red Chinese hordes poured in from Manchuria to sweep Allied forces to their final line of resistance, a small perimter around Pusan.

At no time did the Army relax in fulfilling its agreement to provide the Red Cross all essential logistic support even during difficult times when many items were hard to come by. Though a crisis was at hand and confusion abounded, the Pusan club stayed in business and expanded. An auxiliary unit was estab-

lished in the assembly area for replacement troops en route to forward areas. Red Cross girls operated clubmobiles obtained from Special Services for isolated personnel and for troopships docking at Pusan harbor. They also ran a canteen at the railroad terminal for military trains carrying men to combat and bringing them back.

Neither elaborate nor complicated is this Artillery unit recreation room in Korea where two members of a Red Cross clubmobile unit watch a game of "hot air football." American Red Cross Photograph

The tide of war shifted in the spring of 1951 and plans were made again to extend Red Cross services northward in the wake of advancing Allied forces. The proposed arrangement would have had the Red Cross assuming primary responsibility for clubmobile activities to meet more exactly the emergency needs of a new combat situation.

The idea was dropped, however, after military authorities in Korea made a rapid re-evaluation of the situation. General James A. Van Fleet ruled against the presence of women, other than hospital staff, in territory occupied by the Eighth Army, then under his command. The decision was based on practical consideration of the type of warfare in Korea, combined with the enemy's refusal to recognize the status of noncombatants, plus a high incidence of guerilla depredations behind the uncommonly fluid front.

New talk of impending peace, though, kept the notion of expanded Red Cross programming alive. Such hopes did not last long, and on 30 June 1952, the Red Cross transferred all its stationary club installation to the military. Besides facilities

in Korea a special canteen in Sasebo, Japan, was closed after rendering services during more than a year to troops passing through to and from Korea. All told, club operations of the period involved seven major locations, five of which were air fields, plus Pusan and Sasebo.

As revived shortly after the Armistice at Panmunjom, the Red Cross recreational program in Korea operates according to a set of directives clearly understood by everyone at the top. Procedures have been interpreted to personnel all down the line, a situation making for a minimum of confusion.

A clear line of demarcation exists between Red Cross recreation facilities for able-bodied troops and all activities of similar nature provided by the military and other agencies. As of now, motorized units are used forward only by Red Cross personnel, and no stationary club expansion is contemplated. Clubmobile teams are assigned to individual commands only at the request of their senior officers. In all areas where the program functions, the responsible military authorities have complete knowledge of the type of logistics essential to recreation units assigned to their forces.

Area Headquarters for "Supplemental Recreational Activities Overseas" are in Tokyo, with the new organization's administrative office at Eighth Army Command, Korea. Marie-Louise Van Vechten of Norfolk, Connecticut, is Regional SRAO Supervisor, and Jessica S. Hunter of Rockville Center, New York, is her top assistant. Both are veterans of previous club service in Korea and Red Cross activities in other parts of the world. Ella Cruise of Bound Brook, New Jersey, Program Assistant Supervisor, knows Red Cross club work from long experience. Workers come from every section of the United States.

Staff vehicles are guided on flexible schedules over a network of road communications fanning through territory roughly bounded by a strip below the demilitarized zone, and a line east from Seoul and Inchon to the Sea of Japan. The Yellow Sea is its western limit.

Clubmobiles are not sleek at all, but heavy-looking vans mounted on 2½ ton Army truck assemblies. Painted olive drab, their colorful distinction is the large unit insignia and Red Cross emblem on each side—and the Red Cross uniforms of the girls who serve them.

Vehicles and workers are based at command headquarters of

all Army corps and nearly all combat divisions in Korea. Girls newly arrived in the Far East are put through a brief training course at Omiya, near Tokyo, to supplement their training at American National Red Cross Headquarters in Washington, D. C. They learn old and new Red Cross recreation routines and prepare for their interesting, though often hardy, careers.

Probably because of its novelty and homespun appeal, the clubmobile operation has attracted an unusual measure of attention, notably in and around the region where it functions. But standard and exceptional Red Cross services have been available and utilized in the Far East Command over the years. Long before the Communist invasion of South Korea, American Red Cross workers were on the job in military hospitals and installations of the Army, Navy, Marine Corps and Air Force, and with civilian dependents throughout Japan, Korea, the Philippines, and Ryukyus.

Men and women in uniform are accustomed to expect a multiplicity of attentions from trained Red Cross workers assigned to their units. Able-bodied personnel have the right to request consultations and guidance regarding their personal problems, assistance in communicating with families and inquiring as to the welfare of those at home. They solicit—and get—information needed for consideration of applications for home leave, guidance relating to allotments, allowances, insurance, civil relief and other matters of immediate concern to service people far from their families. Under certain conditions, they and their dependents may obtain loans for emergencies. Professional and volunteer Red Cross hospital workers provide recreation, shopping, communication services and other assistance for bedridden personnel and their dependents.

At Operations Little Switch and Big Switch, the American Red Cross gave men repatriated from exile in Communist prisoner of war camps their first taste of home. The long route from their delivery to freedom at Panmunjom to the repatriation ship at Inchon was marked at every stopping point by Red Cross staff personnel offering something new and heartening to prison-weary young men, who were being set on the road to home.

During a lull, this Marine Corps sergeant feeds an orphaned kitten on the front lines in Korea.
U.S. Marine Corps Photograph

Of Men

and Mascots

These puppies enjoy life on the USS Gull. U. S. Navy Photogra

PETS AND MASCOTS—furred or feathered, winged or four legged—have long been a service tradition. Wherever you find soldiers, sailors, Marines or airmen, you will inevitably discover a mascot. From Alaska to the Canal Zone, from Berlin to Tokyo, the American serviceman always finds some waif of the animal world to adopt and upon which to lavish care.

It may be just a mongrel from Main Street who tagged along with his master or it may be some bizarre zoological specimen picked up in a foreign land. The size or the breed is not important. Some are seasoned veterans, accustomed to the hardships of battle; others are new-born, rescued from No Man's Land; all are revered and pampered by their circle of servicemen admirers. Pedigreed, or of unknown lineage, here are a few of the pets which American servicemen around the world have adopted.

Sassie, *a pet magpie adopted by a Signal unit in Korea, finds a good perch on this soldier's helmet.* U.S. Army Photograph

A real "sea dog" is this mascot aboard the carrier Bon Homme Richard. Butch *seems reluctant to abandon ship, even if it's only a drill.* U.S. Navy Photograph

This delicate little fawn was dubbed Rigor Mortis *by members of a tank battalion in Korea.*

U.S. Army Photograph

While **Tinker** *looks as if she could fly unaided, by simply spreading her long ears, she has logged more than 1000 hours in jets.* **U.S. Air Force Photograph**

The face belies the name—but he takes grim pride in his blue ribboned ancestry.
U.S. Army Photograph

Here is one chow hound who is not ashamed to be called a pig. Harry *belongs to an artillery battalion at Fort Hood, Texas.* U.S. Army Photograph

The Womble Report On Service Careers

MEMORANDUM FOR: The Assistant Secretary of Defense (Manpower and Personnel)

SUBJECT: Final Report—Ad Hoc Committee on the Future of Military Service as a Career that will Attract and Retain Capable Career Personnel

1. BACKGROUND

On 20 February 1953 the Joint Chiefs of Staff forwarded a memorandum to the Secretary of Defense stating that they had become increasingly concerned about the growing lack of confidence among Armed Forces personnel in military service as a worthwhile and respected career. They were particularly concerned over implications of this situation as they would affect the future proficiency of the military services.

On 30 April this same concern was expressed by the President in his message to the Congress (Reorganization Plan No. 6 of 1953). The President affirmed he had directed the Secretary of Defense to study the problem.

Responsive to these requirements, Rear Admiral J. P. Womble, Jr., USN, Major General R. N. Young, USA, Rear Admiral M. E. Arnold, USN, Major General M. J. Lee, USAF, and Brigadier General N. H. Nelson, USMC, were appointed as a committee to study the problem and recommend corrective action, as required. An interim report of progress was submitted on 16 July 1953 and work continued. This is the committee's final report.

2. DELINEATION OF THE PROBLEM

Publicity which attended work of the committee generated hundreds of letters from active and retired military personnel as well as from the general public. The committee examined these letters, together with voluminous evidence procured from the military departments, and concluded that military service as a career that will attract and hold capable and ambitious personnel had deteriorated alarmingly in comparison with other fields of skilled endeavor.

It must be clearly established that this report deals with professional career officers (including long-term reserve officers) and noncommissioned officers of the regular forces. This is the "hard core" which ultimately determines the military virtue of our Armed Forces. So long as the unstable international political situation requires some form of military service from virtually every eligible young man in this country, there will be no dearth of numbers, who, for personal advantage, temporarily desire to affiliate themselves with this hard core. Such persons were excluded from this study.

The problem was thus resolved to be: *Why has military service lost much of its attractiveness as a lifetime career for inherently capable personnel and what corrective measures are necessary?*

3. DISCUSSION OF RESPONSIBLE FACTORS AND RECOMMENDATIONS

a. World Commitments and the National Attitude

(1) *World Commitments have Burdened Personnel with Instability and Abnormal Hardship.*

The attainment of a satisfactory defense posture against the unrelenting advance of Communism has necessitated the continued maintenance of our Armed Forces at an unprecedented peacetime size.

It has been necessary to deploy a major portion of these forces throughout many areas of the world varying widely in climatic and general living conditions. The continuing necessity to provide personnel support for these oversea forces, and to insure maintenance of their combat effectiveness by means of rotation, has burdened career personnel with instability and abnormal hardship. The continuing practice of stationing large forces in oversea areas without family living accommodations has brought about increasingly frequent periods of lengthy family separations. These disruptions of family life have appreciably increased living costs, multiplied personal problems, strained marital relations, and, in many instances, destroyed families. There are not sufficient numbers of able men who will willingly accept a career which prohibits or destroys normal family life.

(2) *Public Respect for Constituted Authority has Declined.*

There is ample evidence of a lack of understanding on the part of the people concerning the necessity for implementing our present national military policy. It appears that a portion of this unfavorable attitude stems from the recent conduct of

hostilities in Korea. Certainly these hostilities were conducted without the degree of public support afforded to two preceding world-wide conflicts. Continued operation of Selective Service is equally distasteful. Until the public is made to understand and accept a public responsibility of military service, the situation is not likely to improve.

There exists an unwholesome amount of irresponsible criticism of the implementation of our national military policies. The more vociferous of critics aim their slanderous attacks at our military leaders whom they refer to derogatorily, collectively and repeatedly as "the brass." More recently "the brass" has been extended to connote all career military officers as a class.

The committee cautions that the continued degradation of career military officers as a class can eventually do irreparable damage to our ability to attract and retain capable personnel. Able and conscientious men will not indefinitely continue in a profession dishonored by public criticism.

b. MILITARY AUTHORITY AND LEADERSHIP HAS DECLINED

(The following affect the respective services in varying degrees.)

(1) *There has been a Dilution of Military Authority and Leadership.*

The tremendous increase in inexperienced personnel within our Armed Forces subsequent to the outbreak of hostilities in Korea resulted in a dilution of career experienced authority and leadership. This dilution has been further accentuated by losses of experienced personnel who no longer find military service an attractive and satisfying career. Unless this trend can be reversed, the inevitable result must be mediocrity in the conduct of military affairs.

(2) *The Dilution of Authority and Leadership Led to Reduced Distinction Between Ranks.*

The dilution of experienced personnel necessitated increasingly centralized authority and control. Commissioned and noncommissioned command authority and consequently prestige were diminished accordingly. The trend has been toward over-supervision. Personnel are no longer inclined to accept responsibilities commensurate with their rank primarily because they lack authority adequately and fully to discharge these responsibilities.

Service leaders must accept full responsibility for yielding to popular and political pressure to adopt policies which served

further to diminish the distinction between ranks. Certain post-war "reforms," designed primarily to force officers and enlisted men into a common social pattern, served only to reduce pride in service, inhibit effective discipline, reduce incentive and ultimately encourage personnel to leave the service.

(3) *Discipline Requires Emphasis if Military Authority is to be Reestablished.*

The committee unanimously concludes that professional standards have been permitted to deteriorate through lack of effective disciplinary control. The adoption of the Uniform Code of Military Justice, with its unwieldly legal procedure, has made the effective administration of military discipline within the Armed Forces more difficult. An officer's word is no longer recognized as his bond. Forthright determination to correct these conditions is essential if the integrity of military leaders is to be reestablished in the opinion of the public, thus enhancing the profession of arms.

(4) *Esprit has been Inhibited to the Detriment of Effective Leadership.*

The continuous influx and egress of personnel in the Armed Forces is conducive to adoption of personnel policies which deal with individuals on a mass-production basis. Such procedures may produce dollar economy, but assuredly destroy unit and individual identity and with it, esprit. Collective pride in organization and mission can come about only when it is possible for all individuals permanently to identify themselves with a particular mission and military organization. Frequent reassignment and excessive interchange of command inhibit this identification. Too frequently, an attempt has been made to restore the damage thus done by the hasty adoption of individual morale-stimulating panaceas. More fundamental corrective measures are essential.

(5) *Technocracy has been Over-emphasized to the Detriment of Command Ability.*

The services must overcome the dilution of military authority and leadership by adjusting promotion criteria. A premium must be placed on command and leadership abilities. Accompanying an increase in technocracy within the services, there has been an ever-increasing demand for technical abilities. As a result many now achieve promotion to responsible positions, never placing themselves in a situation where their leadership and

command abilities are tested. It must be clearly established that military command and technical astuteness are two separate and distinct fields of endeavor. Both are essential, but career personnel must be reassured that leadership ability will be recognized in promotion procedures.

(6) *A Reduction of Professional Standards Makes Military Service Less Attractive.*

The committee counsels that a further lowering of professional standards will not serve to lend attractiveness to a military career. On the contrary, resultant mediocrity will engender further dissatisfaction, thus encouraging others to leave the service. Inadequate national preparedness will assuredly result.

The military departments must adopt policies to restore the prestige and authority of officers and noncommissioned officers by increasing their authority and responsibility, demoting the incompetents, eliminating over-supervision and placing a premium on leadership and command abilities.

Those who betray their trust, are incompetent, or bring discredit on military service must be ruthlessly eliminated.

c. Increased Competition With Industry For Good Men

(1) *Take-home Pay Has Not Kept Pace with the Cost of Living.*

It is a matter of major concern that career military personnel can no longer cope with the increased costs of living. Relief is essential. Civilian employment is at an all time high and pay is lucrative, particularly for the skills taught within the services.

Increases in service pay have neither approximated the increase in the cost of living nor increases afforded organized labor or even increases afforded civilian public servants. At the same time, there has been an alarming decrease in compensatory benefits. The result of these two trends has been to place military personnel in the incompatible position of being unable to live even modestly and adequately provide for their families.

The committee concludes that unless career service personnel are assured of sufficient take-home pay and compensatory benefits, to enable them to maintain a satisfactory standard of living and properly provide for their families, they will neither adopt nor continue in the Armed Forces as a career, regardless of the strength of any other motives.

The committee recognizes the enormity of the problem facing the current administration in attempting to stem the rise of public debt and balance the national budget. Despite these

obstacles, the committee urges that the present administration provide some relief by increasing service pay. The committee is convinced such action would do much to stem the present tendency to leave military service for the more lucrative pay in private industry.

(2) *Traditional Compensatory Benefits have been Emasculated.*

It is impossible to assess in terms of dollars the morale value of compensatory benefits. The committee forthrightly urges the abandonment of the present policy of reducing compensatory benefits traditionally utilized by the services to supplement take-home pay. Pressure groups of business interests have emasculated many of these benefits. They have been the continuous targets of Congressional economy attacks. They have been exploited by the services themselves to provide non-appropriated funds for morale and welfare activities. First things must come first. These benefits must be restored in full and complete effectiveness as an adjunct to service pay. This is a cheap budgetary price to pay and an absolute minimum essential if sufficient career personel are to be retained in the military service.

(3) *Retirement Must be Made More Attractive.*

The past twenty years have seen a remarkable advancement in the retirement plans of industry. The advantage previously enjoyed by the military in this area has rapidly disappeared. Retired personnel must be more adequately recompensed for a lifetime devoted to the preservation of our way of life. The present economic situation of many of our retired service personnel reflects discredit on our Government. The committee concludes retired personnel must participate in any pay readjustments afforded the military services.

(4) *Insufficient Provision for Families.*

The committee is convinced that, to date, sufficient effort has not been expended to secure adequate provision for families. Inadequate housing and exorbitant rents can and must be corrected. Additional provision must be made for the education of children. Additional means must be provided whereby career military personnel may more adequately provide for their families in the event of their death or disablement. All of these actions are essential if the services are to compete with civilian industry for capable personnel.

(5) *Inducements to Leave the Service.*

Attractiveness of a service career must outweigh inducements to leave the service. We must acknowledge the great savings involved in continuous service by providing most of the benefits afforded to personnel on separation from the service. There appears to be little justification for denying to the veteran who remains in the service the advantages accorded the veteran who voluntarily separates himself from the service. At present, personnel must forego thousands of dollars in benefits to remain in service.

(6) *The Armed Services Must be Able to Compete with Industry.*

The advent of modern weapons in our Armed Forces has brought about an increasing technocracy accompanied by an overwhelming demand for skilled technicians in all trades. Because of our inability to hold career personnel in highly technical positions, the Armed Forces are forced to give costly training to thousands of personnel who immediately leave the service for the more lucrative awards available in industry. One of the greatest savings to be made in our national defense efforts lies in enhancing the ability of the Armed Forces to compete with industry to retain highly skilled technical personnel. The committee therefore contends that no additional cost is involved in additional recompense for career personnel since, over a period of time, such costs are more than offset by decreased costs of training, recruitment and separation.

d. Positive Danger Exists That Budgetary Considerations Transcend Combat Effectiveness

(1) *Large Forces at Low Costs Are Not Enough.*

The enormous cost inherent in the maintenance of defense forces of an adequate size has resulted in an alarming drain on our national treasury. The committee therefore recognizes that foremost consideration must be given to securing the maximum defense per dollar cost.

However, the committee admonishes that the adequacy of our national defense posture lies not alone in maintaining the largest possible number of people under arms at lowest possible dollar cost, but equally in the military virtue of those Armed Forces as exemplified by the professional competency, esprit and training of their career personnel—that is, the combat effectiveness which must be achieved at whatever cost. There must be a hard

core of expert career personnel capable of rapid expansion in the event of total mobilization.

The committee concludes that in furtherance of cost consciousness there exists positive danger that budgetary considerations will be permitted to transcend the attainment of this combat effectiveness. The Korean emergency proved conclusively the inadvisability of such policies.

(2) *Fiscal Decisions Must Be Made by Those Responsible for Military Effectiveness.*

Costs incident to the pay and maintenance of personnel loom large in the national military budget. Such items are easily identifiable and readily present themselves as targets for hasty, ill-considered reductions. There has been a tendency for fiscal decisions to be taken without due regard to their impact on personnel and combat effectiveness. Preparedness is measured in *numbers* of ships, planes, tanks, guns—and people. The committee notes with alarm that many such decisions are made within the military departments based on recommendations of junior civilian advisors and from without the military departments by committees, bureaus, and agencies, none of whom are charged with the military defense of our nation, or capable of evaluating our combat effectiveness. The committee concludes such decisions must be more carefully supervised and examined by senior civilian and military leaders. In the event fiscal decisions affecting personnel are made from without the military departments, some system must be devised to insure that the responsible agency shall accept full responsibility for the ensuing results.

The committee counsels that a continued failure to judiciously apply budgetary reductions affecting personnel will ultimately dissipate the military virtue of our Armed Forces as represented in our career military personnel. It is exceedingly important that responsibility for such an event be sufficiently determined in advance.

e. For itemized problems and recommended actions, see Appendix I.

4. CONCLUSIONS.

a. The committee concurs in the appraisal of the Joint Chiefs of Staff that military service has lost much of its attractiveness as a career.

b. Unless the present trend of career personnel leaving the

service can be reversed, most serious consequences to the national defense effort will result.

c. Responsibility for the present state of affairs must be shared between the military departments, Congress and many other governmental bureaus and agencies.

d. Corrective measures are entirely within national capabilities, but require the support of the President and Congress.

e. Alternatives involving a substantial extension of the compulsory active service period or a lesser degree of combat effectiveness are unacceptable since they will assuredly result in inadequate national military preparedness.

5. RECOMMENDATIONS

a. That the recommendations contained in this report and Appendix I be approved for implementation without delay.

b. That responsibility for implementing action be assigned as indicated in Appendix I.

c. That the final report of the committee be approved and forwarded to the Secretary of Defense.

d. That, since the implementation of the detailed recommendations of this report will require nation-wide support, upon approval, it be released for publication in its entirety.

e. That the committee be continued in an advisory capacity to insure necessary corrective action.

FOR THE COMMITTEE:

J. P. WOMBLE, Jr.
Rear Admiral, U.S.N.
Chairman

30 October 1953

APPENDIX

What's Wrong	*How to Correct*	*What Should Be Done—By Whom*
WORLD COMMITMENTS AND NATIONAL ATTITUDE		
World Commitments Have Burdened Personnel with Instability and Abnormal Hardship, Particularly Lengthy Family Separations	(1) Planners and policy makers include in studies full discussion of impact on personnel. (2) All assigned missions be reviewed and less essential be eliminated. (3) Services restudy deployments and develop plans to improve permanency. (4) Allow concurrent travel when practicable. (5) Provide adequate housing.	(1) Planners at all echelons constantly weigh effects of commitments on personnel. (2) Military Departments take appropriate measures to insure maximum stability. (3) Keep adequate rotation base in United States at all cost.
Public Respect for Constituted Authority Has Declined.		
Irresponsible criticism of implementation of national military policy.	(1) Forthright publicized rebuttal.	(1) Department of Defense—Publicize national military policy and rebut unjustified criticism.
Slanderous attacks and criticism of military leaders.	(1) Military enforce discipline, conduct and performance of duty to make criticism unwarranted. (2) Coordinate information media in forthright rebuttal for unwarranted criticism.	(1) Military Departments raise standards of performance and enforce discipline. (2) Military Departments develop and adopt a program to produce immediate and coordinated rebuttal with maximum national publicity sanctioned by Department of Defense.
MILITARY AUTHORITY AND LEADERSHIP HAS DECLINED		
Dilution in Ranks by Inexperienced Personnel		
Distinction between ranks reduced.	(1) Increase emphasis on command responsibility and restore officer and noncommissioned command authority. (2) Widen gap of pay and authority.	(1) Military Departments—Make assignment of work, responsibility, and privileges commensurate with rank.
Discipline requires emphasis.	(1) Revise Uniform Code of Military Justice to meet problems peculiar to the services. (2) Do not tolerate incompetency. (3) Accept full responsibility for service policies, thus restoring discipline, incentive and morale.	(1) Bureau of the Budget forward proposed Executive Order increasing severity of punishment for absence offenses to the President. (2) Department of Defense complete study and review of Uniform Code of Military Justice. (3) Department of Defense, Military Departments—Decentralize authority as well as responsibility. Examine current regulations and directives to eliminate restrictions on commanders' prerogatives.
Esprit Inhibited.	(1) Demonstrate loyalty down as well as up. (2) Publicize military leaders' efforts before Congress. (3) Avoid hasty expedients to solve morale problems. (4) More attention to personal assignment problems. (5) Promote unit identification. (6) Resist ill-advised "reforms." (7) Eliminate over-supervision.	(1) Military Departments—Stress physical conditioning and combat readiness as the real means to develop a battle-worthy team and reduce emphasis on USO and other dubious morale aids. (2) Military Departments—Treat personnel as individuals, not so many MOS numbers. Encourage a feeling of identification with the unit and promote pride of service.

What's Wrong	*How to Correct*	*What Should Be Done—By Whom*
MILITARY AUTHORITY AND LEADERSHIP HAS DECLINED (Cont'd)		
		(3) Military Departments—Require high standards of performance and make discipline more stringent to achieve this result. (4) Department of Defense, Military Departments — Reduce use of expensive civilian survey teams and advisory committees and use military command channels to secure information on military matters.
Technocracy over-emphasized to detriment of command ability.	(1) Emphasize command and leadership. (2) Distinguish between technical and command fields of endeavor.	(1) Military Departments—Study methods to distinguish between command and technical responsibilities. (2) Army and Marine Corps preparing plans to distinguish by separate insignia. (3) Army and Marine Corps radically reduce number of Military Occupational Specialties.
INCREASED COMPETITION WITH INDUSTRY FOR GOOD MEN		
Insufficient Take-Home Pay		
Base pay has not kept pace with cost of living.	(1) Press for increase. (2) Inform the command.	(1) Department of Defense—Press for cost of living increase. (2) Department of Defense 83-223 to increase Cadet and Midshipman pay should be supported. (3) Department of Defense sponsor continuing information program to advise service members of status of pay increase.
Incentive-hazardous duty pay threatened.	(1) Implement Strauss Commission recommendations in this area.	(1) Department of Defense Ad Hoc Committees now working. (2) Department of the Army preparing legislation to increase combat pay. (3) Department of the Air Force preparing legislation to convert flight pay to percentage of base pay.
Sea and foreign duty pay threatened or lost.	(1) Reject Strauss Commission recommendations and continue for enlisted and restore to officers.	(1) Department of Defense adopt position that this is a pay reduction unacceptable for enlisted men. (2) Department of Defense recognize that officers have been discriminated against in this matter and seek restoration of this pay to officers.
Traditional Compensatory Benefits (Which Were Considered in Hook Committee Report as Part of Service Pay) Have Been Reduced.		
Less medical and dental care.	(1) Declaration of policy by Congress. (2) Uniform service implementation. (3) Subsidized service from civilian source. (4) Budgetary provision.	(1) Department of Defense (Health and Medical) now reviewing Moulton Commission report. (2) Department of Defense seek permanent legislation assuring dependents' medical care.

What's Wrong	*How to Correct*	*What Should Be Done—By Whom*
INCREASED COMPETITION WITH INDUSTRY FOR GOOD MEN (Cont'd)		
Less savings from post exchanges and ships stores.	(1) Restore price differential. (2) Decentralize to installation commanders.	(1) House Armed Services Committee recognizes need and has defended retention. (2) Revise Armed Forces Exchange Regulations to require decentralization and restore price differential.
Less savings from commissaries.	(1) Oppose pressure groups of retail merchants. (2) Adopt Department of Defense position no civilian facility can compare in price and quality, therefore, none should be closed. (3) Protest strongly to Congress.	(1) Department of Defense now securing report preparatory to decision on closing. (2) Secretary of Defense announce forthrightly that no commissaries will be closed since this would in fact constitute a substantial reduction in service pay.
Less reimbursement for movement of household goods.	(1) Oppose all riders on appropriations acts.	(1) Department of Defense impress Congress with the harm inherent in duplication of control represented by rider-type legislation.
Less reimbursement for cost of travel.	(1) Increase Joint Travel Regulation rates to maximum provided by Section 303(h), Career Compensation Act. (2) Seek legislation for a dislocation allowance.	(1) Department of the Navy will sponsor legislation to provide dislocation allowance. (2) Direct Joint Travel Committee to revise travel allowances upward to maximum provided by law and reflect rank differential.
Retirement Less Attractive		
Civilian employment restricted.	(1) Eliminate dual office and dual compensation restrictions.	(1) HR 4723 reported favorably to Bureau of the Budget. Will raise dual compensation limit to $6250 and eliminate restrictions on employment of service personnel. (2) Civil Service Commission preparing legislation to eliminate restrictions on dual employment for all Government agencies.
Disability retirement benefits have been reduced.	(1) Restore 75 percent disability pay. (2) Make changes elective. (3) Separate from Veterans' Administration criteria.	(1) Department of Defense sponsor legislation to separate officer disability retirement from Veterans' Administration criteria and restore 75 percent disability pay.
Voluntary retirement has been restricted.	(1) Eliminate abuses. (2) Restore the normal functioning existing voluntary retirement legislation.	(1) Some relaxation accomplished in 1954. (2) Congress, Department of Defense recognize that a condition of Cold War will obtain for a protracted period and voluntary retirement legislation must be allowed to function.
Retired pay has not kept pace with cost of living increases.	(1) Assure retired pay be included in any active duty cost of living increase. (2) Exempt retired pay from income tax.	(1) Department of Defense sponsor legislation for cost of living increase.
Insufficent Provision for Families		
Survivor benefits are discriminatory and inadequate.	(1) Improve adequacy. (2) Equalize between Regular and Reserve personnel.	(1) Contingency Options Act for retired personnel now law. (2) Department of Defense 83-13 (Active Duty Survivor Benefits Bill). (3) Department of Defense 83-39 will equalize benefits. Ready for 1954 program.

What's Wrong	*How to Correct*	*What Should Be Done—By Whom*
INCREASED COMPETITION WITH INDUSTRY FOR GOOD MEN (Cont'd)		
Inadequate provision for dependent education.	(1) Permanent legislation required to insure funding. (2) Oppose reductions by rider.	(1) Department of Defense sponsor legislation as a basis for adequate funds for dependent education.
Inadequate family housing.	(1) Oppose restrictions on acquisition and construction. (2) Change policy of opposing government-owned housing. (3) Reduce rentals on Wherry housing. (4) Insure purchase loans through GI Bill.	(1) Annual increments of services long-term family housing programs be included in Department of Defense budget submissions. (2) Department of Defense, Military Departments acquaint the Congress with the inadequacies and expense of Wherry-type housing.
Cash Inducements to Leave Service		
Eligible for generous veterans benefits on discharge.	(1) Provide benefits for people remaining in service at least equal to those provided veterans in the Veterans Readjustment Act.	(1) Department of Defense 83-89; A-A carried over from 1953 to 1954. Bureau of the Budget rejected 6 July. (2) Department of Defense reopen this issue and provide at least equal inducement to personnel who remain in the service. (2) Impress Congress with the fact that bonus-type legislation is an inducement for personnel to leave the service.
BUDGETARY CONSIDERATIONS SHOULD NOT BE PERMITTED TO TRANSCEND COMBAT EFFECTIVENESS		
There is a Tendency for Fiscal Decisions to be Taken Without Due Regard for Their Impact on Personnel and Combat Effectiveness	(1) No fiscal policy should be established without full evaluation of its effect on morale and effectiveness of military personnel.	(1) In effecting budget reduction, Bureau of the Budget and Department of Defense should allow service departments to exercise judgment as to areas best susceptible to reduction with least calculated risk. (2) The impact on fiscal decisions affecting combat readiness by junior advisors in positions of influence, but without responsibility for military effectiveness, should be most carefully evaluated.

The Army Industrial Fund

Colonel E. P. Hardenbergh

TO SUPPLY, maintain and support its troops in the field, the Army operates a great variety of industrial or commercial type installations, including arsenals, chemical plants, general depots, printing plants, ports of embarkation, hospitals and other specialized facilities. An important part of their work consists of reconditioning operations which in themselves save the Nation's taxpayers millions of dollars annually.

Thus during Fiscal Year 1953, the Army Quartermaster Corps at ten depots in continental United States alone, repaired and returned to stock more than sixty-three million items of supply having an aggregate value of 167 million dollars—all at a cost of 16.1 million dollars, or less than 10 percent of the value of the restored articles. In the Ordnance Corps, too, impressive savings have been achieved by rebuilding and returning to stock everything from heavy vehicles to optical equipment. Comparable savings are reported by the other Technical and Administrative Services in their respective fields.

The current annual cost of materials manufactured or reconditioned and of services provided by these commercial or industrial type activities runs into the hundreds of millions of dollars. In this area, the Army today is employing a management device known as the Army Industrial Fund program, to stretch tax dollars by eliminating waste and inefficiency.

The Army Industrial Fund is a revolving type fund which originated in Section 405(a) of Public Law 216, passed by the 81st Congress. This Act authorized the Secretary of Defense to require the establishment of working capital funds in the Department of Defense for the purpose of "(1) financing in-

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ventories of such stores, supplies, materials and equipment as he may designate; and (2) providing working capital for such industrial type activities and for such commercial type activities as provide common services within or among the departments and agencies of the Department of Defense as he may designate."

On 13 July 1950 the Department of Defense issued regulations broadly covering the operation of working capital funds for industrial and commercial type establishments. Subsequently, on 28 February 1952, Army Regulation 37-70 "Working Capital Funds—Army Industrial Fund" was issued. This regulation transferred financial responsibilities for certain Class I support activities from the Army Area Commanders to the Chief of the Technical Service under whose command the installation financed by an Army Industrial Fund operates.

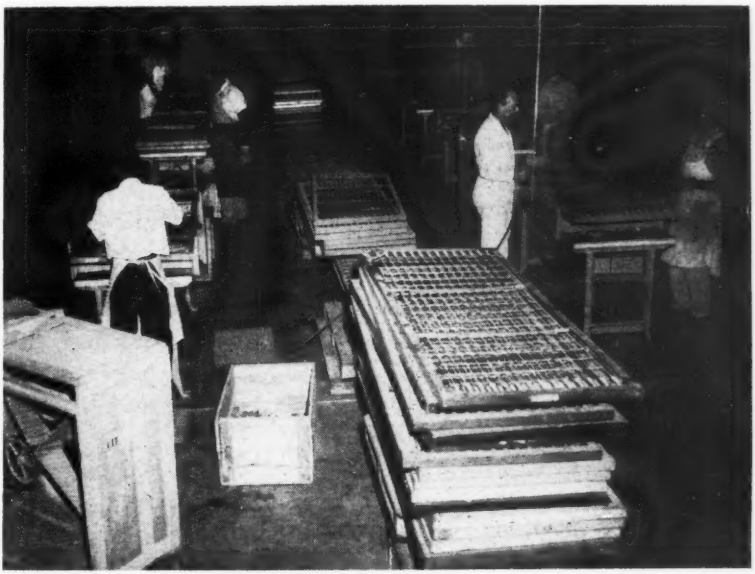
In October 1952, a plan for implementation of the program was approved by the Under Secretary of the Army. As a general policy, all Army installations and activities in which industrial or commercial type activities predominate were to be studied to determine the feasibility of operating them under an industrial fund system. Highest priority was assigned to manufacturing arsenals and proving grounds since, at this type of activity, the entire installation could be included under the fund operation.

Priorities for adoption of the Army Industrial Fund program follow this sequence—industrial type establishments engaged in manufacturing and production, research and development, and rebuilding, overhauling and renovation; next in order are commercial type service activities, communication and transportation facilities, medical services, storage and warehousing, and procurement offices and centers.

The plan also laid out a time schedule for inauguration of the Fund, assigned responsibility and authorized the hiring of commercial contractors as technical assistants at installations whose operations appeared suitable to this type of financing. Within this framework, work was begun to create industrial funds at the local level.

Just what is an Industrial Fund? Simply stated, it is a management device applicable to Army installations or activities where manufacturing and commercial type operations are performed. In effect, it puts the commander of such an installation or activity "into business" by providing him with a fixed amount of working capital. This working capital fund consists of unex-

pended balances of cash on deposit in the Treasury, or its equivalent; accounts receivable; stores of supplies, materials, and work in process; finished goods; and all other current assets pertaining to or acquired in the operations of the establishment financed under the Fund, subject to all liabilities incurred in connection with such operations. The cost of plant and equipment normally is not included as part of the Army Industrial Fund, although the purchase of certain equipment may be financed from it.



Barracks bunks get a new lease on life at the Maintenance Division of the Fort Worth, Texas, Quartermaster Depot. U.S. Army Photograph

As a parallel action, a system of cost accounting and budgeting comparable to that employed in private industry, is installed. This enables management to compile costs of items manufactured or services rendered. Once the system is established and a cost accounting system installed, all of the goods and services produced are handled on a buyer-seller relationship with the installation's customers—whether they be Army, Navy, Air Force or other Government agencies. The account is credited with actual cash or credits representing reimbursements for the cost of production or services, in order that the funding cycle may be repeated and the account maintained.

The purpose of the Fund is to provide a more effective means of controlling the costs of goods produced and services rendered by industrial and commercial type organizations. It also offers a more effective and flexible means for financing, budgeting and accounting for such operations. One expected long-range result is the development of a greater sense of responsibility and self-restraint on the part of individual agencies within the Army Establishment. When these agencies are completely financed and when they order and pay for goods and services (rather than obtaining them "free"), they are more likely to limit their requirements to available funds and to balance the cost of such goods or services against the benefits and advantages of their use. The creation of such a buyer-seller relationship also places the ordering agency in the position of being a critic of purchase prices—*i.e.*, costs—as well as quality and speed of delivery of the goods or services.

Industrial and commercial type establishments operating under the Army Industrial Fund in turn will be able to discharge their responsibilities more effectively by separate financing of their operations. Savings can be achieved by careful budgeting and accounting for costs under the system widely used by industry rather than by the more cumbersome method of appropriation accounting—a method not at present readily adaptable to their type of operation.

As of September 1953, the system was established and operating at nine installations—Rocky Mountain Arsenal, Denver, Colorado; Pine Bluff Arsenal, Arkansas; Picatinny Arsenal, Dover, New Jersey; Manufacturing Divisions of Quartermaster Depots at Jeffersonville, Indiana, and Philadelphia, Pennsylvania; Dugway Proving Ground, Tooele, Utah; Diamond Ordnance Fuze Laboratories, Washington, D. C.; and at the Defense Department and Army Printing Services located at Ogden, Utah, and St. Louis, Missouri, respectively.

A good example of an Army installation operated under the Fund is the Chemical Corps' Rocky Mountain Arsenal. Since the system was installed, the entire organization has been put on its toes. There is now a calculated and continuing effort toward greater effectiveness with less wasted effort. Specifically, a full year's operation under the plan showed the following advantages: Monthly operating statements now can be more easily understood by shop foremen and supervisors since they do not require a

fiscal background for interpretation. Exchange of labor between different production lines is facilitated. This type of manpower economy was seldom practiced previously due to the diversity of control and interests among various departments. Increased co-operation on the part of the workers is evident. Each level of management, beginning with shop foremen and supervisors, now has previous performance figures of its activity and knows that it must equal or beat the performance of other teams. Further, these figures are now significant to the average manager because they bear the dollar sign, a symbol which affects each individual's own experience in life.

A boiler unit restored to good-as-new condition at Jeffersonville, Indiana, Quartermaster Depot is a source of savings to taxpayers. U.S. Army Photograph

From the "customer's" viewpoint, too, the program has proved gratifying because it sets forth the costs of each product and service furnished, thus providing a better basis for budgeting and programming for future orders.

Ordering agencies also are given a greater sense of responsibility, as their request must be made in terms of specific amounts of money which they are willing to spend.

Also, a new plan for inventorying maintenance and operating supplies has been instituted. The previous reporting system

called only for enumeration of stock items without any really usable cross-reference as to their value. Under the new plan, a dollar value is placed on every phase of operation and each action taken. In addition to establishing records indicating balances, stock levels are maintained on a usage basis and items of stock not showing an adequate turnover are quickly revealed. Supply personnel then look for ways to reduce the excess as a means of cutting storage and maintenance costs. One result is that less of the Arsenal's money is tied up in idle materials, and fewer items are exposed to the risk of becoming obsolete, or unusable through deterioration.

As a part of the Industrial Fund program at the Arsenal, an improved materials management system was installed. This provides an up-to-date catalog which enables personnel to make selective substitutions. Dollar limitations are placed on the stockage of items in various departments, with ceilings based on realistic use expectancy. Stocks are screened continuously to determine frequency of use. Slow moving items are weeded out. Those that do not move are segregated for use by other Government agencies needing them. Inventories are thus reduced.

Admittedly, the worth of any program must be measured by what it has accomplished. Following are a few of the achievements reported nation-wide under the Army Industrial Fund program during the period 1 September 1952 to 30 April 1953.

At Rocky Mountain Arsenal an order was received for munitions which had not been previously manufactured at that installation and therefore sound historical cost data was not available. An initial bid of 21 million dollars for the order was made and accepted. After production commenced and accurate cost data were accumulated through the Army Industrial Fund program, it was found that the order could be completed for $900,000 under the initial bid price. Thus, almost a million dollars was made available to the ordering agency for other purposes, and a sound basis was created for determination of costs in support of budgetary estimates for future orders.

Excess inventory of materials at Philadelphia Quartermaster Depot is being reduced by substituting stock items for specification items which would otherwise require new procurement. This is expected to result in a saving of $884,000. Some $282,000 worth of excess stock is being disposed of by sale. Obsolete spare parts valued at $103,000 have been identified and disposal action

initiated. Also during this period, reorganization of production departments, scientific planning of cutting operations and utilization of salvage material produced substantial economies.

These constructive steps and specific savings merely suggest some of the ways in which the Army Industrial Fund can contribute toward better management and greater efficiency. The system itself is not a cure-all. It merely provides information upon which intelligent decisions can be based. It does not in itself guarantee that these decisions will be correct. Furthermore, it offers no remedy for difficulties originating outside the installation, such as shortages, inflation, delays in deliveries of materials, and changes in customers' programs—although in some cases it does act as a palliative for these conditions.

Already, under the guidance and direction of the Office of the Army Comptroller, considerable progress has been made toward the Army Industrial Fund program goals for Fiscal Year 1954. Industrial Fund management control systems have been developed and are being installed at the following locations: Springfield Armory, Massachusetts; Frankford Arsenal, Philadelphia, Pennsylvania; Watervliet Arsenal, New York; Rock Island Arsenal, Illinois; Red Stone Arsenal, Huntsville, Alabama; Watertown Arsenal, Massachusetts; and Maintenance Divisions of Quartermaster Depots at Fort Worth, Texas, Richmond, Virginia, and Ogden, Utah. Subject to approval by the Under Secretary of the Army, New Orleans Port of Embarkation, Louisiana, and Signal Corps Pictorial Center, Long Island City, New York, will be added.

Also included in the Army Industrial Fund program for Fiscal Year 1954 are the following installations: the laundry at Fort Meade, Maryland; Cameron Station, Alexandria, Virginia; Deseret Chemical Depot, Tooele, Utah; Coffee Roasting Plants at Atlanta, Georgia, and Auburn, Washington, Quartermaster Depots; Base Shops and Medical Depots at St. Louis, Missouri, and Louisville, Kentucky; Lexington Signal Depot, Kentucky; Maintenance Division, Marion Engineer Depot, Ohio; Engineer Section, Atlanta General Depot, Georgia; and the Army Map Service, Washington, D. C.

These installations and activities will be surveyed to determine the feasibility of placing their operation under the Army Industrial Fund. They were originally selected with a view to including all Technical Services in the program. First priorities will be

accorded to industrial-type installations and activities insofar as the Technical Services themselves can provide the staff to accomplish the necessary work. In cases where it is considered feasible to install industrial fund systems, the Office of the Comptroller of the Army will furnish staff supervision and guidance in the preparation and submission of charters, revision of internal organization structures, changing in funding procedures, and the development and installation of accounting systems, management controls and reporting formats.

During Fiscal Year 1954 the feasibility of applying the Army Industrial Fund concept to support functions of Class I installations will be explored. Meanwhile, steps will be taken to refine and make the systems still more effective at those installations and activities where the program already is in force.

The Army Industrial Fund program for Fiscal Year 1955 will include: Red River Arsenal, Texarkana, Texas; Letterkenny Ordnance Depot, Chambersburg, Pennsylvania; Belle Meade General Depot, New Jersey; New Cumberland General Depot, Pennsylvania; Schenectady General Depot, New York; Baltimore Signal Depot, Maryland; Decatur Signal Depot, Illinois; Hampton Roads and New York Ports of Embarkation.

The Army today has a parallel responsibility to combat waste and inefficiency within its operations as vigorously as it defends against aggression. The Army Industrial Fund is invaluable in this endeavor. As a many faceted tool of management, it provides a means of spotting rising costs. It enables production supervisors and workers alike to see the results of their teamwork in practical dollar savings. It can furnish the Technical Services—and indeed already has done so—with a means of locating and fighting higher costs, inefficiency and waste.

The program is of direct benefit to its customers. Accurate knowledge of the cost of each product or service puts them in a better position to budget and program future orders. Since these customers are Government agencies, the resultant economies mean savings for the taxpayers. Equally significant are the facts that the increased efficiency and lower production costs per unit made possible by the Army Industrial Fund program are translated into a more powerful national defense.

Crossroads Of Army Ordnance

Major William R. Spruill

JUST AS all roads led to Rome in ancient days, all Army Ordnance roads lead to Aberdeen Proving Ground, Maryland, in this atomic age.

Located thirty-five miles north of Baltimore where the Susquehanna River empties into Chesapeake Bay, this six-by-eighteen-mile tract of land and water has long since proven the wisdom of early Ordnance planners who acquired the site in 1917 after the Sandy Hook, New Jersey, Proving Ground had become too small for testing the Army's "modern" weapons. The area originally cost 3.5 million dollars. Today it houses a physical plant which would cost at least 400 million dollars to replace.

Major General Jonathan L. Holman, Commanding General of Aberdeen Proving Ground, refers to the installation as "The Crossroads of Army Ordnance"—and with good reason. Here new types of Ordnance weapons, vehicles and ammunition are subjected to exhaustive development tests before decisions are made either to send them on to service tests or to return them to arsenals, designers or industry for further improvement.

"Proven" items which pass the rigorous Aberdeen Proving Ground and subsequent tests are produced in quantity and distributed as standard items to our own Armed Forces, as well as being made available to our allies. Because these fighting tools must be the best that American engineers and industry can provide, the installation has a crucial role to play in separating the "best" from the runners-up.

Aberdeen's work is not restricted to experimental and pilot models in being. Its laboratories engage in basic and technical research in ballistics, and in the related branches of physics,

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chemistry, electronics, mathematics and engineering for the Army, Navy, Air Force, Atomic Energy Commission and Armed Forces Special Weapons Project.

Besides research and development, other important activities include the Aberdeen Ordnance Depot which provides field service support, the Ordnance Board which studies and makes recommendations on all matters pertaining to Ordnance troops and Ordnance maintenance equipment, and the Human Engineering Laboratory which analyzes human factors in ordnance engineering design.

Since everything that is Army Ordnance, with the exception of guided missiles, can be found at the Proving Ground, the post serves as an ideal location for the Ordnance Training Command, attached to Aberdeen. The Training Command is responsible for all ordnance technical training in the zone of interior and supervises the Ordnance Replacement Training Center, The Ordnance School and the Unit Training Center at Aberdeen.

Development and Proof Services

By far the largest area, some 65,000 of the 75,000-acre proving ground, is utilized by the Development and Proof Services (D&PS) for firing ranges, automotive test courses, laboratories, engineering and consulting service facilities. Although this agency exists primarily for the purpose of testing Army ordnance, its equipment and personnel frequently are employed in joint operations on Navy, Marine Corps and Air Force equipment as well as for private industrial concerns producing ordnance materiel. Officers representing Army Field Forces, the Navy and the Air Force are permanently assigned as liaison officers, and engineering representatives of private industry maintain daily liaison when a project involving one of their contracts is in progress.

Ordnance development depends largely on precise instrumentation and grueling tests. Firing ranges for small arms, mobile artillery, trench warfare materiel and antiaircraft weapons are located at strategic points, with some ranges being devoted solely to the testing of armor and armor-piercing ammunition. Testing of bombs, flares and other pyrotechnics is conducted a safe distance from the main industrial area.

In the field of automotive development, combat and transport vehicles are tortured on specially built stretches of the world's

worst and best man-made roads. After putting a vehicle over macadam, concrete, gravel, Belgian block, frame twister courses, "mountain goat" hills and calibrated slopes; after mud and water baths and cross-country courses; after extensive testing, checking and evaluation of engines and vehicle components by specially equipped laboratories and giant, mobile dynamometers, it is no wonder that one manufacturer said ruefully, "I gave them a bright, new, shining truck—and they handed it back to me on a shovel."

Hot and cold temperature chambers ranging from 180° to −70° F. are available at Aberdeen, but there is no substitute for subjecting ordnance weapons, vehicles and ammunition to sustained tests under extreme temperatures over actual terrain. Technicians from Development and Proof Services test fuels, lubricants, traction devices, rubber components, paints and many other items under desert conditions at Yuma, Arizona, and at sub-arctic and arctic temperatures at Devil's Lake, North Dakota, and Fort Churchill, Canada. High speed, high altitude range bombing is conducted by the Aberdeen Bombing Mission at Edwards Air Force Base, California.

D&PS laboratories provide necessary instrumentation for research, development and field evaluation of all items of ordnance in being; they also conduct basic research on protective coatings and chemicals required for the preservation and maintenance of ordnance materiel. In most instances, D&PS scientists and engineers must evaluate the measurement problem at hand, then design, develop and fabricate special instruments to solve these problems, since the required devices usually are not commercially available.

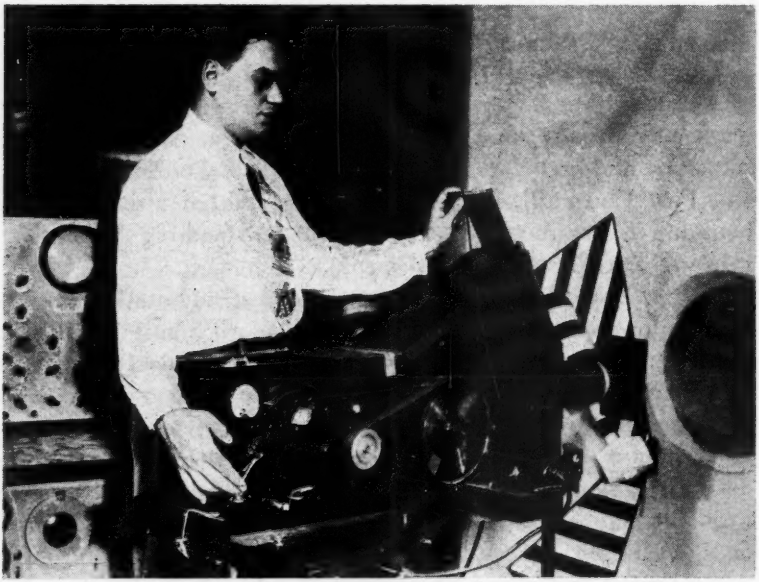
How, for instance, would you measure the effect of a vibrating antiaircraft mount on each bullet as it leaves the gun during rapid firing? Laboratory scientists recently developed a photographic technique that recorded the actual location of each projectile's flight with respect to the line of fire, and in addition showed its relationship to each other projectile in the burst.

A few years ago it cost as much as seventy-five cents per round to determine the velocity of ammunition undergoing test. Just before the Korean conflict began, a machine-gun chronograph was developed that measures the velocity of every round fired, even at higher than normal cyclic rates, and at a cost of only three cents a round. Recent improvements indicate that the

cost will soon be further reduced to a mere fraction of a cent.

The newest addition to the Laboratories' collection of wonder instruments is a Mitchell camera mount, designed in such a way that the three angles of elevation, azimuth and tilt on each camera are recorded at the time the pictures are being taken. This reduces by one third the time necessary to acquire precise data on the flight of test projectiles.

Eight large vans containing complete electronic recording equipment roam the Proving Ground constantly on test assignment. Each of them can measure as many as thirty-six separate actions taking place while a gun is firing a single round.



This high speed camera photographs at the rate of one hundred million frames per second. U.S. Army Photograph

Another testing device, a "controlled shimmy" platform, simulates the vibration of aircraft, trucks, railway cars and gun mounts. When packaged items such as ammunition, ammunition components and automatic aircraft weapons are placed on it, their fatigue points can be determined easily and cheaply.

By maintaining a miniature "Bureau of Standards" for the calibration and maintenance of its tremendous array of optical, electrical, physical and mechanical items, the Laboratory is able to provide instrumentation of great accuracy and reliability.

In the spring of 1953 at Frenchman's Flat in Nevada the

280-mm. gun, T131, popularly known as the "atomic cannon," made history as it laid an atomic war-head over point zero, exactly as its protagonists had promised. Months before, representatives of the press, the Congress and the Armed Forces attended a special demonstration at Aberdeen Proving Ground to witness the operation and maneuverability of the gun, using conventional ammunition. Design studies for this unique weapon, the largest piece of mobile artillery ever constructed in this country, were completed by Franklin Institute of Philadelphia, Pennsylvania. The carriage was constructed at Watertown Arsenal, Massachusetts and the gun and tube assembly were built at Watervliet Arsenal, New York. The completed pilot unit was then submitted to Aberdeen for development testing.

Solution of industrial and chemical problems is sometimes as important in warfare as the perfecting of guns and tanks. Artillery shells, for instance, must be painted for protection from rust and corrosion and for identification as to type, yet costly delay occurs when ammunition must be set aside in drying rooms for long periods. To solve this bottleneck, the Paint and Chemical Laboratory of D&PS developed a new method which allowed the shells to be painted on the assembly line and packed almost immediately for shipment.

Ballistic Research Laboratories

Terminal Ballistics Laboratory. The payoff for any shot is at the target. For this reason, some of the most important work of the Ballistic Research Laboratories is centered in its Terminal Ballistics Laboratory. This unit studies air blast and ground shock effects, jet penetration, distribution and penetration of shell fragments, and factors which are essential to the ignition and combustion of targets.

Since this Laboratory's facilities are highly specialized, most instrumentation must be developed locally. A good example is the Sultanoff high speed camera which can take one hundred million photographs a second. High-speed X-ray equipment has been designed to study shaped charges while they penetrate armor plate. A newly developed shock-tube utilizing compressed air as an energy source eliminates the need for large explosive charges to create blast waves of long duration. It makes possible tests under controlled conditions, comparable to a miniature hurricane raging in a 24-inch diameter steel tube. Scale models

of buildings and other structures are placed within the tube and their response to air shock is studied.

The Office of the Chief of Army Field Forces frequently requests special studies by the Terminal Ballistics Laboratory. Why use a cannon to kill a man if a bullet will do the job? Fragmentation instead of the bullet may be the answer. Perhaps the commander wants a blast effect to sneak around a corner and wipe out the enemy lurking there. The Terminal Ballistics Laboratory has the answers.

Exterior Ballistics Laboratory. But before the payoff at the target, one first has to hit the target. Every rifle enthusiast knows that it is not an easy matter to hit the bull's-eye on every shot, that some shapes of bullets are inherently more accurate than others. It is the mission of the Exterior Ballistics Laboratory to provide a rational basis for the design of good ordnance missiles by studying their flight.

In the past decade, problems in exterior ballistics have been magnified beyond measure due to the design of radically new weapons. Added to the classical problems of gravity and drag during the flight of a bullet or shell at supersonic speeds are many new problems such as the behavior of bodies traveling near the speed of sound, the free flight performance of high speed bombs, of finned shells, of rockets, of guided missiles and supersonic aircraft. Facilities available to the Exterior Ballistics Laboratory to support its theoretical and experimental research include a flexible-nozzle supersonic wind tunnel capable of producing winds equivalent to those at 3700 miles an hour; a free-flight pressurized range where temperature and pressure can be varied, and where air can be replaced by helium and other gases; a free-flight range 300 feet long, with photographic stations which take pictures of missiles in free flight at 46 points along its path; and a 700-foot free-flight range for larger missiles, with 25 photographic stations.

By employing these facilities, new weapons can be quickly and cheaply evaluated and redesigned when necessary with resultant savings of time and money. Thus when the supersonic wind tunnel was first put into operation near the end of World War II, the first tests were performed on a certain large bomb which was scheduled to go into full production. Wind tunnel tests proved that the flight of the bomb would have been unsatisfactory, so the design was changed. The saving from this one

study is estimated to have paid for the entire cost of the wind tunnel. In another case, an antitank missile was redesigned to help break an industrial bottleneck in its manufacture. Some of the causes of sporadic occurrence of short ranges in mortar fire are being explained more completely by the theoretical and experimental work of the laboratory.

Interior Ballistics Laboratory. The action that takes place from the time that a lanyard is pulled or a trigger squeezed until the time that the shot is in the air is the sphere of interest of the Interior Ballistics Laboratory. The phenomena are not dissimilar from those related to internal combustion engine research. A rocket or gun is, in effect, a type of internal combustion engine, the rocket being on the order of a jet engine, and the gun a piston engine. The operating conditions are, however, much more severe in guns and rockets so that the problem of instrumentation and measurement is greatly aggravated and specialized facilities are necessary.

Specifically, the interior ballistician is concerned with the ignition and burning of the charge to form the propelling gas, the expansion and flow of the gas, the resultant motion of the projectile, and important side results such as the effect of the hot gas on the inside of the gun barrel itself, and on tactical factors, such as rate of fire. Recent investigations have focused on the possibility of increasing muzzle velocity by unconventional arrangement and functioning of the power charge. This work demands elaborate instrumentation of the gun. As an indication of the intricate and precise devices used, personnel of the Interior Ballistics Laboratory have recently developed a method of following the motion of *individual powder grains* within the barrel of a gun while it is being fired.

Weapon Systems Laboratory. This activity is concerned with the weapon system as a whole, how it performs, and how the separate components are united. Most of the projects originate within the Army; however, a substantial amount of work is performed for the Air Force and occasionally some is done for the Navy. The resulting improvements range from modifications of existing weapons to make them more effective, to design and recommended development of complete new weapon systems.

Many of the system studies require that a large number of variables be considered, and the resulting mathematics are complex and time consuming. Considerable progress has been

made in modifying mathematical procedures so that they may be fed into high speed electronic computing machines. In other cases electronic, mechanical and optical devices have been designed and built to simulate actual combat. An example is a simulator for combat between two aircraft. In this device, a gun whose dispersion and aim wander is controllable, fires "bullets" of light at a target having light-sensitive surfaces. Each hit upon a given surface is recorded and the machine then computes the probability of a "kill."

A 12-ton 8x8 T33 truck traverses the Frame Twister on the Vehicle Test Course.
U.S. Army Photograph

An important question basic to any study of weapon effectiveness is "What is the vulnerability of the target?" For the answers, large-scale tests have been conducted with tanks and aircraft. The resulting data aid not only in improving the design of weapons for attacking such targets, but also in modifying our own tanks and aircraft so that they are less susceptible to enemy gunfire. If as a result of this program only one less B-36, B-47 or B-52 airplane is lost in combat, that saving will offset the cost of the test program for about five years.

Also under study are the forces produced by the firing of automatic weapons. A single aircraft gun weighing less than two hundred pounds may deliver from five hundred to a thousand

horsepower while it is firing. Up to four guns may be mounted in an aircraft turret, yet the structure must be held to minimum weight. Unless the unit will properly decrease vibration, the recoil forces may be picked up by the computing sight and servomechanisms, resulting in a large and erratic pattern of fire.

The Weapon Systems Laboratory therefore studies the kinematics of automatic weapons and the way in which the dynamics of the weapons interact with their mounts. Individual motions of the critical parts of a machine gun are recorded and the forces are measured as it fires more than a thousand rounds a minute. Using this knowledge, mounts can be designed that will smooth out the pulsating recoil forces and shield the supporting structure from adverse effects.

Other study projects are concerned with the causes of inaccuracy in rocket firings, methods for increasing the effectiveness of armor, design studies of warheads for guided missiles, improving electrical firing circuits and many others. Practically every variety of engineering and scientific skill is utilized.

Ballistic Measurements Laboratory. In the flight testing of guided missiles, two questions are paramount—does the missile follow the path according to instructions, and does it behave properly while in flight? To find the answers, precise and powerful instruments are used on the guided missile ranges. The development of these instruments and of methods for computing the required flight data are functions of the Ballistics Measurements Laboratory.

Electronic instrumentation locates the missile in flight by comparing the pitch of radio signals transmitted to the missile and returned to receivers on the ground. In principle, this is comparable to the rising pitch of the whistle of an approaching train and its descending pitch after the train has passed. The design of a radio receiving and transmitting station packaged to fit in a missile—especially small ones—brings many problems. The art of miniaturizing reached a new peak recently when a unit was designed which was so small that two, placed end to end, fitted in a tube no larger than a broom handle.

The problem of detecting good or bad missile behavior is under continuous study. At present powerful telescopes track the missile throughout its flight for distances of hundreds of miles. In technical terms, the resolving power of these instruments is about one second of arc—equivalent to spotting an

officer's insignia in motion at a distance of some four miles.

Other optical instruments measure the position of a missile in flight. Recently this accuracy was refined to one part in a hundred thousand, equivalent to pinpointing a missile at twenty miles within one foot of its exact position.

Surveillance Laboratory. This unit directs the sampling and testing of all ammunition lots (except small arms) which the Army has in storage to determine whether the ammunition is still of good quality or whether it needs renovation. Modern statistical techniques, including quality control and sampling inspections, are employed to insure the best possible ammunition. The Laboratory conducts research in statistical techniques and procedures applicable to quality control, and many of its reports are made available through the Department of Commerce to engineering, medical and biological organizations.

Computing Laboratory. This facility operates one of the largest automatic computational facilities in the world. One of its digital computers is the ENIAC (Electronic Numerical Integrator and Computer), the first large-scale high speed electronic digital computer to be produced in this country and the first to be equipped with a static "memory." An improved static memory has increased the machine's capacity from 20 words to 120 words. The EDVAC (Electronic Discrete Variable Computer) recently broke all previous records by running 159.9 hours out of the 168 hours in a week. The ORDVAC (Ordnance Variable Automatic Computer) put into operation last year performs 10,000 operations per second.

The ENIAC, EDVAC, and ORDVAC were developed under contract specifically for the Ordnance Corps. These and other computing machines prepare firing and bombing tables and other aiming data for the Army and the Air Force; they also do complex computations in various research problems.

Running the gamut of research and development from statistics to field tests, Aberdeen engineers, scientists and technicians are steadily disproving the adage that "There is nothing new under the sun." Their daily efforts are devoted to studies of new and improved ordnance weapons, vehicles and ammunition so that our troops can be provided with the world's best fighting tools.

The Army Nurse Corps—Dedicated to Service

Colonel Ruby F. Bryant

PERHAPS no other arm or branch of the Army depends more completely on the caliber of its individual members for fulfillment of its mission than does the Army Nurse Corps.

The best planned strategies of infantry officers may go awry if guns, ammunition and other supplies are less than perfect. Signal Corps communication experts may be unable to transmit battle commands if their equipment is technically inadequate. Engineers can build air strips, roads and bridges only if construction materials, transportation and tools are available.

U. S. Army Photograph
COLONEL BRYANT

But the Army nurse, from the days of the Spanish-American War to the campaign in Korea, has relied mainly on two personal qualities—her deep desire to serve humanity and her willingness to participate actively in the defense of her country by caring for the ill and wounded soldier.

During the fifty-three years since February 1901 when the Corps was founded, the Army nurse has steadily acquired stature and grateful recognition. She has joined others in fields of specialization. At all times she has had one goal—improved care of the patient.

The Army pioneered in accepting women as nurses and later as officers. In the Revolutionary War, General George Washington asked the Continental Congress for authority to employ "nurses

COLONEL RUBY F. BRYANT is Chief of the Army Nurse Corps.

to attend the sick and obey the matron's orders." During the Civil War, Dorothea Dix, distinguished New England humanitarian, was appointed to superintend the women working in the Army hospitals. In 1898 the Army accepted the plans of Dr. Anita Newcomb McGee for an Army Nurse Corps Division to serve in the Spanish-American War and named her acting assistant surgeon to establish such a division. Applicants were carefully examined and those accepted were put on a monthly wage. They received quarters, rations, transportation expenses and additional pay for oversea duty. Nurses also were given a distinctive uniform and were sent to duty in Puerto Rico, Cuba, Hawaii and the Philippines.

It was their record of service in the Spanish-American War which provided the final justification for the organization of a permanent corps of professional nurses within the Army Medical Service. Legislation enacted by the Congress on 2 February 1901 established the Army Nurse Corps as a component of the Army. Dita H. Kinney, a registered nurse who had been assistant to Dr. McGee, was appointed the first superintendent.

The outbreak of World War I found the Army Nurse Corps with only 403 members. During the war this number grew to 21,480, of whom some ten thousand served overseas. To provide the required personnel, the Army School of Nursing was founded in 1918 with the main unit at Walter Reed Army Hospital, Washington, D. C. and other training units at thirty-one installations throughout the Nation.

In 1920, largely because of the respect Army nurses had earned by service in Belgium, England, France and Italy during World War I, and also in Siberia, relative military rank was extended in grades from second lieutenant through major.

For nearly two decades the status of nurses remained unchanged. In December 1942, as the mobilization of the Army Nurse Corps for World War II began climbing to peak strength of fifty-seven thousand, the rank of colonel was added and nurses were granted the full pay of an Army officer in each grade. Further recognition came in June 1944 when all barriers to equal pay and benefits with male officers were removed.

The Army and Navy Nurses Act of 1947 gave women the first opportunity for Regular Army commissions and Colonel Florence M. Blanchfield, wartime chief of the Army Nurse Corps, now retired, became the first woman officer in the Regular Army.

The Army Nurse Corps Section of the Army Reserve was also established at this time.

As a carryover from the years of its civilian and relative rank status, all Army Nurse Corps policies and standards to this day have remained under the supervision of the superintendent, now designated Chief of the Army Nurse Corps.

Today as a full fledged officer in the Army Medical Service, the nurse has opportunity to demonstrate administrative ability as well as professional skill. She is responsible for care of patients and for assisting in the instruction of enlisted and civilian personnel in their nursing duties. Such leadership is an inherent part of her professional training.

Some Army nurses, like those in civilian practice, show more executive ability than others. These officers naturally gravitate during their military careers to administrative assignments but they continue to serve in a nursing capacity whenever needed.

As Army officers, nurses are required to be familiar with all Army Regulations relating to their work. They must be well versed in Army policies and must be able to interpret them to junior officers and enlisted personnel who serve with them. It is essential that the Army nurse keep abreast of new developments in medicine and in her specialty since she is often called upon to participate in formulating plans for improved methods and procedures and the development of new equipment. She also is encouraged to keep current her state registration as a graduate nurse and to take an active part in professional and other civic associations in the community where she is serving.

In addition to qualities of professional competence and administrative ability, the Army nurse traditionally displays a calm unflinching courage and a devotion to duty under stress. While contract nurses of the Spanish-American War were the first to go overseas with American troops, the real test of heroic qualities came in World War I, when many nurses were exposed to bombings, submarine attacks and enemy fire. The same heroism was displayed in World War II during which one out of every forty nurses was decorated.

The nurse serving with Mobile Army Surgical Hospitals in Korea was closer to the fighting area than any of her predecessors and she, too, has appeared on the list of those decorated for bravery, outstanding service in care of the wounded, and for skill in operating various sections in hospitals.

A number of significant changes and innovations in the Army Nurse Corps have been made since World War II. Educational opportunities have been broadened, and the programs for advanced professional training including courses in anesthesiology, operating room techniques and management, administration and neuropsychiatric nursing have been expanded.

In 1948 three civilian consultants—leaders in the nursing profession—were appointed to act as advisers to The Surgeon General of the Army. In 1949, a course for enlisted personnel at the practical nurse level was initiated at Walter Reed Army Medical Center. The first course proved so beneficial that two other such courses are now given at Army teaching hospitals. Graduates of these courses function as clinical technicians and assist the professional nurses.

Also in the postwar years, the Army nurse has proved her value as a full-time member of the hospital management team. These teams are concerned with improvement of fiscal, manpower and hospital methods. The professional nurse is in an advantageous position to recognize problems relating to nursing service and their impact on patient care. Her recommendations can result in progressive action and bring to light those areas that need further study. In her capacity as consultant to hospital management, not only does she help to define the scope of the special research projects that affect nursing, but she also guides them, evaluates the nursing aspects of such studies and makes recommendations.

Approximately a year ago, the Army Nurse Corps Section of Career Guidance activities in the Office of the Army Surgeon General, was established. This marked the first career planning program for nurses and already this guidance has stimulated widespread interest in professional progress and personal growth.

Under the plan the career nurse will be brought to her highest capability by alternating selected assignments and professional courses. Training will be acquired by planned duty rotation which will seek to merge her talents with her desires insofar as is possible, at the same time providing the experience needed to round out her career. Although specialization in the Army Medical Service is likely to be more prevalent than in other branches of the Army, the professional nurse is expected to alternate between her field of specialty and other nursing assignments as emergencies arise.

Many tributes have been addressed to the nursing profession in the past. But to the Army nurse who combines service to mankind with service to the Nation, a special recognition is accorded. Speaking at the unveiling of an oil reproduction of the famous Chardin painting, "The Attentive Nurse," in the Headquarters, Far East Command Chapel in Tokyo, General Matthew B. Ridgway, Army Chief of Staff, defined the lasting contribution of the Army Nurse Corps to American life when he declared: "It seems to me that the more exacting the demands made on us by the increasingly complex life under modern free societies, the more we recognize as essential those qualities which permanently characterize the nursing profession—high principles, courage and selfless service."

Women of the Year

A Tribute by

Major General William F. Dean

... In 1953 they worked in windswept hospital tents, ten minutes by helicopter from where shells burst. They met life in harsh moments—when it hovered one heartbeat from death. Their hands reached out unfalteringly at an unknown soldier's cry. When hope ebbed each face remained compassionate because it was often the last thing on earth a soldier saw.

You may not recognize these great women—but they are eternally engraved in hundreds of young American hearts. They are the U. S. Army Nurses and the Red Cross hospital workers. I salute them. They stand without rivals as the Women of the Year.

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Estimating The Speech Situation

Captain Alphus R. Clark

LOOKING slightly perplexed, Major Jones emerged from the regimental commander's office. An infantry officer assigned as an instructor in tactics, he was confronted by a problem entirely new to him. His commanding officer had just informed him that he was to speak before a civic luncheon club, describing the manner in which trainees at the camp were being better prepared for their future roles as soldiers.

Although he had no actual experience in handling such an assignment, Major Jones was not particularly worried over the prospect of facing an audience. Any Army officer who ever commanded troops has talked to groups of people, and his experience as an instructor had taught him how to marshal facts and to present them clearly and forcefully. But he did want to make a good impression, and he was a bit baffled as to just how to prepare his talk. What should his approach be?

Obviously it would have to be different from instructing a class in a single phase of a specialized subject. Did he have sufficient knowledge of the subject and if not where could he get more information? What sort of an audience would he be facing? Those and a score of other questions perplexed him.

As he cast about for a logical starting point, he recalled the instruction he once received in staff officer procedures: "As military leaders we are constantly confronted with situations that require us to make definite decisions. These decisions have to be correct. They often affect the welfare and, at times, even the lives of our men. Fully realizing this, the Army has developed a system of thinking which enables a commander to be reasonably sure he is making the right decision. This method is known as 'The Commander's Estimate of the Situation.'"

CAPTAIN ALPHUS R. CLARK, Infantry, was formerly an Associate Editor, ARMY INFORMATION DIGEST.

Major Jones reached for his *Staff Officers Field Manual* and reviewed the outline of the "Commander's Estimate."

The Commander's Estimate of the Situation

1. **MISSION**
2. **THE SITUATION AND COURSES OF ACTION**
   - A. CONSIDERATIONS AFFECTING POSSIBLE COURSES OF ACTION
     - (1) Characteristics of area of operations
       - (a) Weather
       - (b) Terrain
     - (2) Enemy situation
       - (a) Strength
       - (b) Composition
       - (c) Disposition
       - (d) Recent and present significant activities
       - (e) Status of supply
       - (f) Reinforcement
     - (3) Own situation
   - B. ENEMY CAPABILITIES
   - C. OWN COURSES OF ACTION
3. **ANALYSIS OF OPPOSING COURSES OF ACTION**
4. **COMPARISON OF OWN COURSES OF ACTION**
5. **DECISION**

From Par 75, FM 101-5 "Staff Officer's Field Manual"

As he studied the outline, he was struck by an idea. Substitute "audience" for the "enemy" and the physical aspects of the scene of the speech for "weather," and he would be able to get a much clearer picture of the entire situation. Obviously the "decision" would still be to prepare a speech—but the outline should help him decide what sort of a speech to make, what to include, what to omit, what sort of an approach to take and what sort of a conclusion would be appropriate. Setting to work with pencil and paper, he soon had drawn up his own "Estimate of the Speech Situation."

First he set forth his mission—to give a talk before a civic luncheon club describing the training being given at camp.

Under "considerations affecting possible courses of action,"

he reviewed the physical aspects of the meeting place and the nature of the audience he was to address. What was the seating arrangement? How were the acoustics? What facilities were present for the employment of visual aids? Right now he did not know the answers to any of these questions, but he would certainly have to find out.

Audience considerations, too, were important. How much time would they give him? How many would be there? Were they predominantly professional men, clerical workers, Reservists? Did they have much or little interest in the subject? Had anyone recently addressed them on the same topic? What local or national authorities would they be most likely to respect in support of his statements? What humor or human interest anecdotes would prove useful in gaining audience acceptance?

As for his "own situation," the major decided it would be well to take inventory of what he already knew about his subject and what he would still have to find out. First, his own experience in training men provided him with considerable useful first-hand knowledge. Still, it might be well to do some additional reading and research to make sure he had most of the answers. Also some cogently phrased statements from outside authorities might be useful in backing up his arguments.

For the outlined "enemy capabilities" Major Jones substituted "anticipated audience reactions." He concluded that he would have to find out about that aspect from the club chairman and some of the members.

Studying "own courses of action," Major Jones decided that he would have to narrow his "purpose" sufficiently to get his central theme across. The way he opened his talk would be more than important; it would have a direct bearing on his listeners' attitude. Should he state his proposition outright and immediately? How about some appropriate humor related to the subject matter? Was there some phase of his talk in which the audience would be particularly interested?

Now for the body of the talk. First of all, was the speech to be purely informational or would it require "selling"? In an informational talk, Major Jones would want to tie-in his subject with the interests, background and knowledge of the audience. In developing such an approach, he would want to advance from the known to the unknown, probably in chronological order. But in the "selling" type of talk, he must be sure

to state clearly and unmistakably the point that he is trying to put across, and he must clearly offer a workable solution to the problem under discussion. He must stress the benefits which will accrue to the audience, to the Nation, or to the men in training, if his solution is adopted.

Because his closing remarks would be most likely to leave a lasting impression, he must pay special attention to this portion of his talk. Depending on the type of speech, he might choose a simple summation, or some telling argument, phrase or story as a close-off.

That portion of the "Estimate" dealing with "analysis of opposing courses of action" reminded Major Jones to visualize how each course of action would best meet the anticipated reaction. "Comparison of courses of action" caused him to review not only his own courses of action but also to consider each in relation to anticipated audience reactions. His "decision" would, of course, be a determination of the best method of getting his talk across to the audience.

When he had finished he found that he needed a good deal of information about the audience. This was quickly supplied by "telephone reconnaissance." He learned from the club chairman that the "area of operations" would be small enough so that no amplifiers would be needed and any visual aids could easily be seen. The audience itself would be composed of business and professional men, most of whom had past service experience, a few of whom were Reservists. His research also helped him form conclusions as to "anticipated audience reactions." Obviously his approach could be on a higher level than if he were to talk to a group of high school age and experience; his audience would understand many service references without too much elaboration and would probably be in sympathy with problems of training.

Next Major Jones set down what he himself knew about the subject, then sought out other instructors and broadened his base of knowledge. He consulted field manuals and books available on the post. For the over-all picture of what his installation was doing he consulted the executive officer, adjutant and S3.

Finally, with a feeling of confidence instilled by a thorough knowledge of the entire subject, he found that his "own courses of action" were becoming fairly obvious—his talk would be mainly informational. He then prepared a first draft, working

out a good opening paragraph and then following the remainder of the outline. A recapitulation of main points, he decided, would provide the most suitable ending.

After the general idea of the talk was approved by the commanding officer, Major Jones polished it, then drew upon his own instructor's background to prepare a series of notes on small cards. These he would use during the talk, rather than trying to memorize what he had written out.

A month after his appearance before the luncheon club, Major Jones again emerged from the commander's office. This time he looked pleased rather than perplexed. He actually looked forward with some pleasure to giving another talk before still a different group. There was, he decided, as much satisfaction to be derived from this sort of thing as in meeting and overcoming a difficult training problem.

The requirement for trained personnel is nowhere more important than among the leaders of an Army—the officers and noncommissioned officers. The officer corps and the noncommissioned officer corps constitute the very heart and soul of any Army. They establish and uphold its standards of performance. If an Army fails, it is because its leaders have failed; if it succeeds, it is because they have succeeded. Only effective and inspired leadership will carry units to victory in that arduous, and finally determining aspect of warfare—ground combat.

General Matthew B. Ridgway

ARMY INFORMATION DIGEST, an official Department of the Army publication, is published monthly under the supervision of the Commandant, Armed Forces Information School, Fort Slocum, New York, on behalf of the Chief of Information, Department of the Army. The DIGEST provides timely and authoritative information on the policies, plans and operations, including technical developments, of the Department of Defense, the Department of the Army, the other services and the reserve components. Unless otherwise indicated, material in the DIGEST may be reprinted provided credit is given to ARMY INFORMATION DIGEST and to the author.

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Subscriptions ($1.75 per year to domestic or APO addresses; $2.25 to other addresses) may be forwarded to Book Department, Armed Forces Information School, Fort Slocum, New York, or Superintendent of Documents, Government Printing Office, Washington 25, D. C.; single copies (price 15 cents) may be purchased through Superintendent of Documents only.

The printing of this publication has been approved by the Director of the Bureau of the Budget, 21 May 1951.

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